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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/530,803	06/12/2000	HERVE CROZIER	365-444P	3623
2292	7590	11/02/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			LEE, RIP A	
PO BOX 747			ART UNIT	
FALLS CHURCH, VA 22040-0747			PAPER NUMBER	
			1713	

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/530,803

Applicant(s)

CROZIER, HERVE

Examiner

Rip A. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133): Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on August 23, 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

This office action follows a response filed on August 23, 2006. Claims 1-5, 7-10, 12, 14, and 15 were amended to correct matters of form. Claims 1-5 and 7-15 are pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-5 and 7-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are drawn to an article that exhibits a delta max for cross direction shrinkage of less than 0.38 %. The description of the claimed article is unclear. According to the specification, a series of articles containing the same resin but different pigments was prepared, in addition to one article containing no pigment. The cross direction shrinkage of each material was determined, and delta max corresponds to the difference between the highest (polypropylene and pigment) and lowest (natural polypropylene) values of percentage of cross direction shrinkage. It can be seen that *two* molded articles must be compared in order to determine delta max. As such, whereas a single article may exhibit a percentage of cross directional shrinkage, *a single article can not exhibit a delta max value*. Therefore, the description of this property associated with the claimed article is vague and indefinite.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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4. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiga *et al.* (U.S. 4,551,501) alone, or in view of Stretanski *et al.* (U.S. Patent No. 4,670,491) and/or Wang *et al.* (U.S. Patent No. 4,192,794) for the same reasons set forth in the previous office action.

5. Claims 1-5 and 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiga *et al.* in view of JP 2-41343 for the same reasons set forth in the previous office action.

Response to Arguments

6. Applicant's arguments have been considered fully, but they are not persuasive. The rejection of claims over 35 U.S.C. 112/2nd paragraph, with respect to the universality of delta max measurements, has been withdrawn. Examiner thanks Applicants for clarification of the methodology. The remaining issue is the appropriateness of using term "delta max" to describe a single article. As elucidated, delta max is a measure of the difference between two values, measured on two similar articles, and therefore, a single article can not exhibit a delta max value as claimed. Claim language needs to be rewritten to reflect this fact.

The rejection over claims 10 and 11 remains in force because the coloring pigment is not limited to organic pigments only. The claim recites "non-white or non-black coloring pigment," and TiO₂, cited in the rejection, qualifies as non-black coloring pigment.

The declaration under 37 C.F.R. § 1.132 has been reviewed carefully, and the examiner makes the following points. The examiner appreciates the marked difference between the methods of manufacture of nucleated polypropylenes of Shiga *et al.* and of the present inventors. Shiga *et al.* teaches preparation of polyvinylcyclohexane (hereafter referred to as, polyVCH) using a Al/Ti catalyst. The resulting polymer/catalyst mixture is isolated prior to use in subsequent polymerization of propylene. Applicants refer to this method as "masterbatch," and clearly, the masterbatch contains polyVCH, not polypropylene.

The present invention discloses use of MgCl₂/Ti/Al catalyst to prepare polyVCH, followed by a pre-polymerization step, in which some propylene is polymerized in the presence of the catalyst/polyVCH combination. Finally, the pre-polymerizate and propylene are fed into a

continuous loop reactor for further polymerization. Applicants refer to this method as “*in situ*.” While the catalyst and exact reaction conditions are markedly different, the pre-polymerization step appears to be the critical difference between the two processes.

It is noted here that process claims of the instant invention do not reflect this aspect.

More significantly, it is unclear whether the methodology of the experiments shown in Tables 1a and 2a of reflects a valid comparison with that of cited reference. Applicants have used the nucleated homo PP (homopolymer of Example 2) as representative of the masterbatch of Shiga *et al.* This nucleated homo PP is added to non-nucleated homo PP in amounts of 2 wt % and 5 wt %. However, the nucleated polypropylene of Example 2 is quite disparate in composition since it contains polypropylene and polyVCH. In contrast, the masterbatch of Shiga *et al.* contains only polyVCH. While their crystallization temperatures might be similar, *supra*, the materials have different constitution, and therefore, the materials exhibit different nucleation properties. Consequently, the experiments do not appear to represent consecutive back-to-back comparisons with the example of the prior art.

Applicants show in Table 1a that inventive nucleated homo PP exhibits a greater extent of cross directional shrinkage (1.71 % vs. non-nucleated 1.51 %) compared with polypropylene nucleated with masterbatch of nucleated PP (1.61 % at 2 wt % and 1.68 % at 5 wt %). Applicants draw the conclusion that this greater amount of shrinkage exhibited by the inventive nucleated homo PP reflects the fact that said inventive homo PP more effectively overcomes the influence of pigments on shrinkage. It would appear that Applicant implies that materials exhibiting a larger value of cross direction shrinkage are more effective in overcoming the influence of pigment on shrinkage. Indeed, one observes that homopolymer of example 2 exhibits the largest value of cross direction shrinkage (1.90 vs. 1.58 and 1.54 of comparative samples; see Table 1, page 17 of specification). However, the validity of Applicant’s conclusion seems to be drawn from evaluating a trend of single cross direction shrinkage percentages only. There is no follow-up series of tests using the samples of Table 1a which compares the effect of shrinkage upon addition of pigment, as per the experiments of Table 1 from the specification. Unless there is a universal threshold limit of cross direction shrinkage wherein this leveling effect on pigment is manifested, Applicants conclusion would seem tenuous at best.

The data in Table 2a has been reviewed. Applicants establish that inventive (Example 2) polypropylene, labeled "Ex. 8" in the table, has a crystallization temperature of 126.8 °C. Presumably, this measurement, not disclosed in the specification, was taken experimentally, as it is exactly the same value as that exhibited by the polymer disclosed in Shiga *et al.* One notes that the crystallization temperature increases as more nucleating agent, the polypropylene of Example 2, is added to the base resin, and that the crystallization temperatures naturally lie between the values of 111.7 °C (T_c of base resin) and 126.8 °C (T_c of nucleating agent). These data are not unexpected, and it is not entirely clear what is to be gleaned from the results in Table 2a.

In summary, Applicants do not appear to have addressed the question of why it would not be obvious to one having ordinary skill in the art to incorporate non-white or non-black organic pigment in an amount of 2-5 wt %, and thereby arrive at the subject matter of the claims. Applicants have merely indicated the differences between their polypropylene and, presumably, that of Shiga *et al.*, but any showing of unexpected results/unobviousness where 2-5 wt % of pigment has been incorporated into the composition has not been elucidated. In view of this and previous discussion, the rejection of record has not been withdrawn.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

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October 27, 2006


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